

-20-

WHAT IS CLAIMED IS

5

1. A method for generating an mottling value calculation formula of a paint film containing a glittering material, comprising:

10 an image generation step for generating a brightness image of the paint film based on a light that is irradiated to and reflected by the paint film,

15 a glitter representing value calculation step for calculating a glitter representing value that represents properties of the brightness image generated at the image generation step,

20 a color value acquisition step acquiring color values of the reflected light in one or more predetermined light-receiving angles, colorimetry of the reflected light being separately performed,

a visual evaluation value acquisition step for acquiring a visual evaluation value of the mottling of the paint film, the visual evaluation being separately carried out, and

25 a calculation formula generating step for generating an mottling calculation formula of the paint film based on the glitter representing value calculated at the glitter representing value calculation step, the color values acquired at the
30 color value acquisition step, and the visual evaluation value acquired at the visual evaluation value acquisition step.

35

2. The method for generating an mottling

-21-

value calculation formula as claimed in claim 1, wherein the image generating step is characterized by generating an image using one of a scanner, a CCD camera, and an image pick-up apparatus.

5

3. The method for generating an mottling value calculation formula as claimed in claim 1, wherein the glitter representing value calculation step comprises:

an image-processing step for processing the brightness image by a spatial-frequency differential process, and

15

a totaling step for totaling gradation step values of the brightness image that is processed at the image-processing step.

20

4. The method for generating an mottling value calculation formula as claimed in claim 3, wherein the spatial-frequency differential process employs one of a Sobel filter, a Roberts filter, and a Laplacian filter.

25

30

5. The method for generating an mottling value calculation formula as claimed in claim 1, wherein the color value acquisition step acquires at least one of a chroma value, an FF value of the chroma value, a brightness value, an FF value of the brightness value, a hue angle, and a hue angle

35

-22-

difference in the predetermined light-receiving angles.

5

6. The method for generating an mottling value calculation formula as claimed in claim 1, wherein the calculation formula is generated using
10 QSAR analysis software.

15 7. A method for numerically expressing mottling of the paint film based on the mottling value calculation formula generated according to claim 1.

20